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ABSTRACT

This study examined the relationship between adolescent (10-17 years) criminal offending and adult (18-33 years) offending. The sample comprised 378 Canadian male offenders whose criminal trajectory was tracked for an average of 12.1 years, from adolescence into adulthood. Their man age at the time of the most recent follow-up was 27.5 years. The sample was divided into low and high rate offenders, based on adolescent convictions. Using rates of adolescent offending, separate Cox Proportional-Intensity Regression models were conducted within each group to predict adult offense rates for five types of offenses (property, violent, sex, drug, and technical violations). The results indicated a high degree of continuity for property, drug, and sex offenses. As well, late adolescence drug offenses increased the likelihood of adult property offenses. Both adult violent and technical offenses were predicted by a range of adolescent offense types. The implications of these findings for advancing the criminal career concept are discussed. (Author)

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ED 480 484

PREDICTING ADULT OFFENDERS' CRIMINAL TRAJECTORIES FROM THEIR JUVENILE CRIMINAL TRAJECTORIES

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Poster presented at the 111th Annual Convention of the American Psychological Association
Toronto Ontario
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ABSTRACT

This study examined the relationship between adolescent (10-17 years) criminal offending and adult (18-33 years) offending. The sample comprised 378 Canadian male offenders whose criminal trajectory was tracked for an average of 12.1 years (range = 5.8 - 22.8), from adolescence into adulthood. Their mean age at the time of the most recent follow-up (March 17, 2001) was 27.5 years (range = 22.2 - 33.5). The sample was divided into low and high rate offenders, based on adolescent convictions. Using rates of adolescent offending, separate Cox Proportional-Intensity Regression models were conducted within each group to predict adult offence rates for five types of offences (property, violent, sex, drug, and technical violations). The results indicated a high degree of continuity for property, drug, and sex offences. As well, late adolescence drug offences increased the likelihood of adult property offences. Both adult violent and technical offences were predicted by a range of adolescent offence types. The implications of these findings for advancing the criminal career concept are discussed.

INTRODUCTION

Considerable research on criminal trajectories, conducted over the past 60 years, has examined the nature and pattern of offending over time (Blumstein et al., 1986; Piquero et al., in press). This research has studied changes and continuities in terms of severity of offending (i.e., escalation and de-escalation) and types of offences committed (i.e., diversification and specialization).

Describing these within-individual trajectories is of particular relevance to the chronic offender whose criminal career often begins at an early age and persists into adulthood. Chronic offenders are known to account for a large number of convictions, commit serious and violent offences, and pose the greatest challenge to the criminal justice system. Understanding their developmental trajectories could facilitate more effective justice policy regarding incarceration and treatment and rehabilitation programs.

An issue that has garnered considerable interest in the literature is the relationship between juvenile and adult offences. For example, how are they linked and is there more overlap than difference? In support of a developmental theory of criminal behaviour (Moffitt, 1993), studies have found much overlap between the frequency of offending during adolescence and adulthood (Paternoster et al., 2001; Piquero & Buka, 2002). At the same time, some variation in adult offending not attributable to adolescent offending also has been observed. For example, Piquero and Buka (2002) found that violent offending in adolescence was unrelated to violent offending in adulthood. This may be due to the tendency for juveniles to engage in a wide range of offence types (i.e., show versatility), including some violence, and for adults to show greater specialization in all offence types. Moreover, it has been found that, overall, violent offending is more common among adults than juveniles (Blumstein et al., 1986).

However, much of the extant literature has focused on changes and continuities in the frequency of offending, in general (λ), or of discrete events for specific offence types (e.g., property, violent, drug). This analytical strategy fails to make full use of the longitudinal nature of the data and to take into account the time the individual is not at risk to offend. As a result, it does not reflect a dynamic approach to the study of criminal trajectories.

The Present Study

This study uses longitudinal Poisson regression techniques to examine changes and continuities in the rate of offending over time. Using a longitudinal data set, the aim of the study is to determine whether an individual's offence trajectory for specific types of offences, committed before the age of 18 years, can predict his offence trajectory for specific offence types committed after age 17.

METHOD

Research Participants

The sample comprised 378 males who had been sentenced between 1986 and 1995 to one of two open custody young offender facilities in Toronto. Their mean age at the time of admission into the youth home was 17.6 years (range = 16.1 - 24.4, SD = .9). The criminal trajectories of the

sample were tracked for an average of 12.1 years (range = 5.8 - 22.8, SD = 3.0), from early adolescence into adulthood. Their mean age at first conviction was 15.5 years (range = 8.9 - 21.3, SD = 1.8) and the sample was, on average, 27.5 years (range = 22.2 - 33.5, SD = 2.6) as of March 17, 2001, the time of the most recent follow-up.

Coding Criminal Records

For completeness and accuracy, official criminal records for juvenile and adult offences were obtained from three government sources (Ministry of Community and Social Services, Ministry of Correctional Services, and Canadian Police Information Centre) and one children's mental health center (Hincks-Dellcrest Centre).

The criminal records were coded for a range of variables for each conviction arising from a new set of charges. These included all criminal charges, disposition, length of sentence, and date of sentencing. In order to capture the full range of criminal charges (rather than just the most serious), we categorized each offence that an individual was charged with at each conviction into one of five offence type: property, violent, drug, sex, or technical violations (e.g., breaches and escape custody). In this way, at each conviction, an offender could be classified into more than one offence type category. For example, if, on August 7, 2000, an offender was convicted of a property offence, but was charged with a property, violent, and drug offence, he would be classified into each of these three offence type categories.

Subgroups

To increase the accuracy of our prediction models, the sample was divided into two groups based on the adolescent conviction rate: (a) low rate offenders ($\leq$ 4 convictions, n = 220) and; (b) high rate offenders ($\geq$ 5 convictions, n = 158). This cutoff is supported in the literature (Piquero et al., in press).

Regression Analyses

Separate Cox Proportional-Intensity (i.e., non-parametric time-inhomogeneous Poisson) Regression models with stepwise addition and deletion of variables were conducted within each group for each of five offence types. Cox Proportional Intensity Regression gives an estimate of the cumulative intensity rate, $\Lambda_i(t)$, for individual i, corresponding to the expected number of conviction dates between ages 18 and t, where $t \geq 18$. We obtained an estimate of the form $\Lambda_i(t) = \Lambda_0(t) \exp(\beta' x_i)$, where $\Lambda_0(t)$ is the baseline cumulative intensity rate, which is estimated non-parametrically from the data, corresponding to an individual with all covariates equal to 0, and x_i is the list of covariates for individual i and β is the vector of regression coefficients, to be estimated parametrically.

Predictor Variables

The predictor variables were the rates of offending for each of five offence types determined for each of three pre-18 age categories. The age categories were 12-14, 14-16, and 16-18. The rates were calculated as the number of occasions (i.e., corresponding to the conviction dates), within a given age category, that the individual was charged with each of five offence types, controlling for his time at risk, that is, the time not in secure custody plus *half* the number of days in secure custody in that age category (to correct for the possibility of being convicted of a new offence

while incarcerated).

Dependent Variables

The dependent variables were the rates of offending between ages 18 and *t* for each of five offence types. The rates were calculated as the number of occasions that the individual was charged with each of the offence types, controlling for his length of follow-up. Due to both statistical reasons and time constraints, the adult offences were not corrected for time at risk.

RESULTS

High/Low Rate Group Differences

The results comparing the low rate and high rate groups indicated that, during adolescence, the low rate group had an average of 2.3 convictions, compared with 8.2 convictions for the high rate group, $t(179.7) = -20.8$, $p < .001$. In addition, over the course of the study, the low rate group had an average of 8.8 convictions and the high rate group had an average of 19.0 convictions, $t(291.9) = -11.8$, $p < .001$. As shown in Figure 1, the high rate group maintained a higher rate of convictions into adulthood than the low rate group, $F(10, 367) = 35.2$, $p < .001$. The convergence in lines after age 27 was likely due to the very small number of offenders in the high rate group at these ages.

Insert Figure 1 about here

Regression Analyses (see Tables 1 and 2)

As shown in Tables 1 and 2, there was a high degree of continuity in offending from adolescence to adulthood for property, drug, and sex offences. For both groups, late adolescence (16-18) drug offences increased the likelihood of adult property offences. Also for both groups, adolescent property, violent, and technical offences were positively related to adult violent offences. Early adolescence (12-14) sex offences were negatively related to adult violent offences. With regard to adult drug offences, late adolescence (16-18) violent offences increased the likelihood for the low rate group and decreased the likelihood for the high rate group.

Mid-adolescence (14-16) sex offences were predictive of adult sex offences among the low rate group and early adolescence (12-14) sex offences were predictive of adult sex offences among the high rate group. It also was revealed that late adolescence (16-18) violent offences increased the likelihood of adult sex offences for the high rate group but not the low rate group.

For both groups, adolescent property, drug, and technical offences were positively related to adult technical offences. Adolescent violent offences were positively related for the low rate group and unrelated for the high rate group. Adolescent sex offences were negatively related to adult technical offences for the low rate group and positively related for the high rate group.

Insert Table 1 about here

Insert Table 2 about here

DISCUSSION

This study extends the criminal career research by using a Canadian sample of offenders, an extended period of time for tracking offence patterns, and longitudinal Poisson regression techniques to predict adult offence rates based on adolescent offence rates.

The results clearly showed considerable overlap in the rate of offending for property, drug, and sex offences. In other words, adolescent offence rates for these types of offences were positively related to their corresponding adult offence rates. This is consistent with previous research on specialization patterns, though most studies have not examined offending across the transition from adolescence to adulthood.

It is of interest that late adolescence drug offences predicted adult property offences, perhaps out of a need to maintain a drug habit. At the same time, the relation between adolescent property offences and adult drug offences was more complex. Among the low rate juveniles, adolescent property offences were unrelated to adult drug-related crimes (though adolescent violent offences increased the likelihood of adult drug offences). Among the high rate juveniles, both adolescent property and violent offences decreased the likelihood of adult drug-related crimes. This latter finding suggests a high degree of specialization among these adult drug offenders. Last, it is not surprising that the adult violent and adult technical offences were predicted by a range of adolescent offence types.

With regard to the question of how offence rates are linked, current evidence supports the state-dependence theory (Nagin & Paternoster, 2000). This theory states that experience with committing a crime increases the likelihood of future offending due to resultant transformations in the person's life circumstances (e.g., loosening of bonds to prosocial peer group, substance use problem, resultant incarceration).

Our future research will examine changes and continuities for specific types of offences within offence clusters. For example, do break and enters predict all types of property offences or just break and enters? Moreover, continuities in offence types do not necessarily presume specialization if the offender also is engaged in a range of offences. Therefore, the issue of changes and continuities in offending within patterns of diversification and specialization will be a further area for investigation.

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Table 1. Results of the Cox Proportional Intensity Regressions for Low Rate Offenders (n = 220)

Dependent Variable = Adult Property Offences

Predictor Variable	Regression Coefficient[a]
Property 12-14	**.28**
Property 16-18	**.33**
Drug 16-18	**.54**
Sex 14-16	-.64

Dependent Variable = Adult Violent Offences

Predictor Variable	Regression Coefficient
Property 16-18	.18
Violent 16-18	.15
Sex 12-14	-.50
Technical 12-14	.74
Technical 14-16	.43

Dependent Variable = Adult Drug Offences

Predictor Variable	Regression Coefficient
Violent 16-18	.50
Drug 16-18	**.79**
Technical 14-16	.63

Dependent Variable = Adult Sex Offences

Predictor Variable	Regression Coefficient
Property 16-18	-.78
Sex 14-16	**.91**

Dependent Variable = Adult Technical Offences

Predictor Variable	Regression Coefficient
Property 12-14	.40
Property 16-18	.22
Violent 16-18	.21
Drug 16-18	.38
Sex 16-18	-.39
Technical 12-14	.51
Technical 14-16	.36

[a] $p < .05$

Table 2. Results of the Cox Proportional Intensity Regressions for High Rate Offenders (n = 158)

Dependent Variable = Adult Property Offences

Predictor Variable	Regression Coefficient[a]
Property 12-14	**.14**
Property 16-18	**.15**
Violent 16-18	-.12
Drug 16-18	**.18**
Technical 12-14	-.22
Technical 14-16	.08

Dependent Variable = Adult Violent Offences

Predictor Variable	Regression Coefficient
Property 12-14	.10
Violent 16-18	.09
Sex 12-14	-.68
Technical 14-16	.06

Dependent Variable = Adult Drug Offences

Predictor Variable	Regression Coefficient
Property 16-18	-.16
Violent 12-14	-.53
Drug 16-18	**.24**
Technical 14-16	.10

Dependent Variable = Adult Sex Offences

Predictor Variable	Regression Coefficient
Violent 16-18	.17
Sex 12-14	**.91**
Technical 14-16	-.20

Dependent Variable = Adult Technical Offences

Predictor Variable	Regression Coefficient
Property 16-18	.05
Drug 14-16	.32
Sex 14-16	.25
Technical 14-16	.08
Technical 16-18	.04

[a] $p < .05$

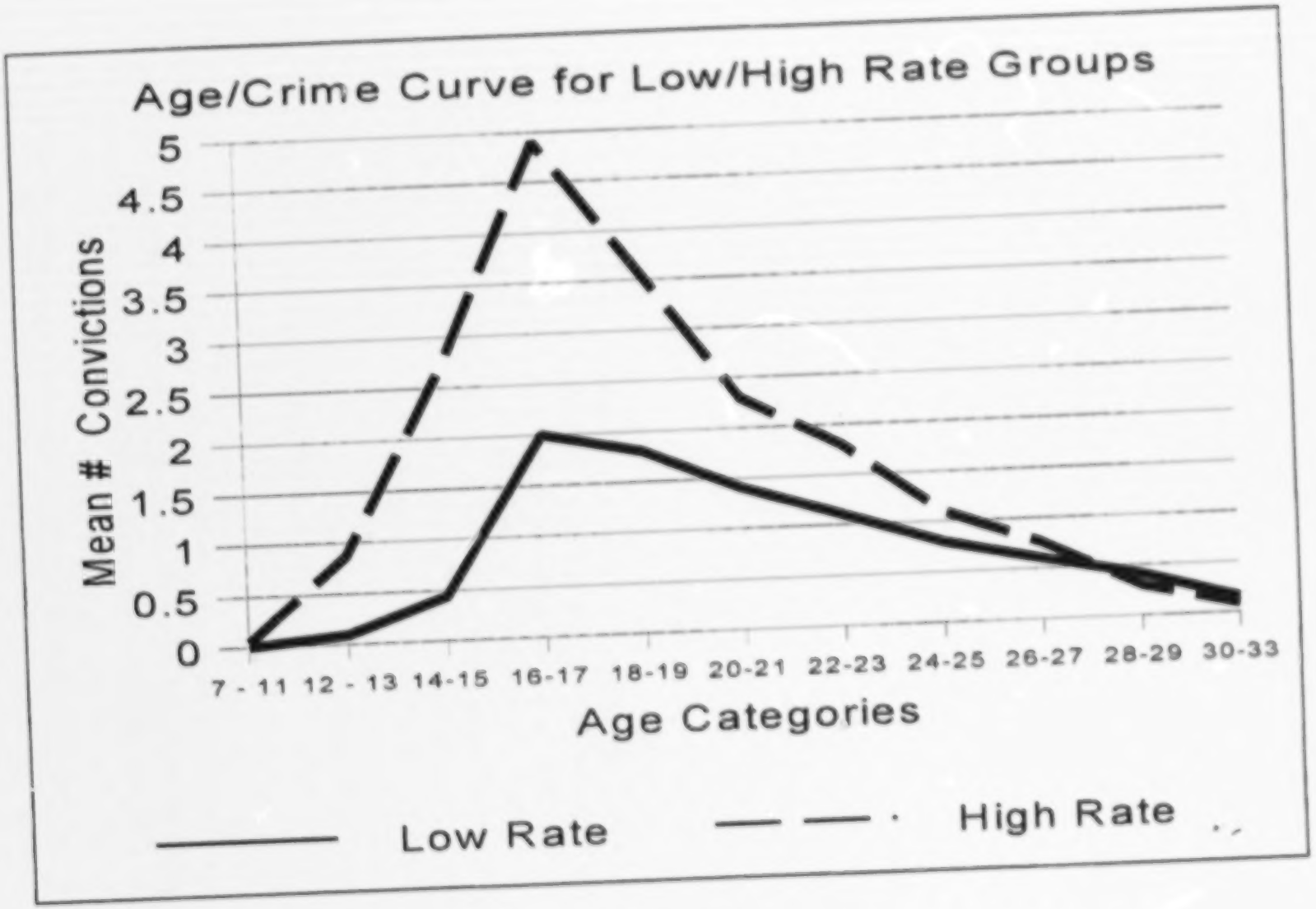
Age/Crime Curve for Low/High Rate Groups
Mean # Convictions
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
7 - 11
12 - 13
14-15
16-17
18-19
20-21
22-23
24-25
26-27
28-29
30-33
Age Categories
Low Rate
High Rate

Figure 1

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